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PROGRESS REPORT #1

SKYLAB PROPOSAL EPN 435

CONTRACT NAS9-13359

15 MARCH 1974

Principal Investigator -- Ernest G. Stoeckeler

Co-Investigator -- Raymond G. Woodman

Title: "Multidisciplinary Analysis for Highway Engineering Purposes"

The first SL-3 product received was S192 imagery, ch. 2, 7, and 11, roll 559, EREP pass 40, imaged September 14, 1973, received at this office December 8, 1973. The imagery covers the northernmost portion of Maine and has 100 percent cloud obscuration. Thus, no terrain data is obtainable from this imagery.

The following SL-3 products were received at this office on January 14, 1974:

- (1) Five scenes of S190A photography from orbit 32, September 10, 1973, cloudfree, covering the area from west of Lake Champlain - New York - Vermont, to the east shore of Moosehead Lake, Maine;
- (2) Nine scenes of S190A photography from Orbit 40, September 14, 1973, covering the northern part of Maine, 100 percent obscured by clouds;
- (3) Nine scenes of S190A photography from orbit 52, September 21, 1973, cloudfree, covering the coastal region of Maine and extending from WSW of Boston, Mass., to Eastport, Maine.

All scenes were obtained in 70 mm format, 1:3,000,000 scale, in six different band and filter combinations. It will be noted that of the 138 total frames of S190A photography received to date, as described above, only 54 frames, or nine scenes, are clear scenes of Maine within the test site area of this proposal.

Two U-2 aircraft missions were flown in September as underflight

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support to this proposal and to three ERTS-1 proposals. The missions were timely, occurring about a week from the SKYLAB passes. The coastal area was covered by U-2 photography on September 13, the inland area on September 17.

The coastal coverage obtained September 21, 1973 on orbit 52 is currently being analyzed as time permits. Initially, the CIR band is being studied by stereo viewing, by comparison with U-2 coverage and by enlarged projection. Individual frames are being mounted in 'EMDE' 2 3/4" X 2 3/4" aluminum frames and projected by an American Optical Company "GK" 70 mm projector, model 3689. Some additional ground truth has been obtained concurrent with ongoing highway exploration projects.

Projection analysis has been somewhat hindered because of the relatively dense CIR and Aerial color products and the limited brilliance of the projector lamp, resulting in a projected image of less than optimum brightness. Little difficulty has been experienced in viewing the black and white products, however.

Visual analysis of products on hand and of future photography and/or imagery will continue. It is expected that input of expertise from other state agencies will be solicited.

It is emphasized that the loss of the Principal Investigator, Mr. Ernest Stoeckeler, due to prolonged illness, will seriously impact the investigative effort of this proposal, and extend the time required to complete an in-depth study of photography to fulfill the objectives of the proposal. Mr. Stoeckeler would have devoted nearly full-time study effort, whereas co-investigators and other personnel can devote only part-time effort, due to the press of current on-going and routine Bureau of Highways work.

-/- Submitted by:

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Principal Investigator